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ABSTRACT

This report is the result of a survey conducted by the Northeast College in the Houston Community College System (HCCS) (Texas) to assist students with class scheduling. It will provide the academic offices with information that will allow for more efficiency when scheduling classes and act as a retention strategy by allowing students to have input in the process of determining when classes will be offered for them. Results include: (1) most students at the Northline campus preferred day classes as opposed to evening and night classes; (2) more students preferred classes on Monday and Wednesday morning than other times; (3) the least popular times for students were Tuesday and Thursday afternoons.; (4) the second most popular time selected was Monday, Wednesday, and Friday between the hours of 8 AM and 3 PM; and (5) the majority of students preferred having classes during the day, with less than a third (30%) indicating that they preferred nighttime classes. These data appear to be consistent with other information that the system has collected in the past. However, the lack of current available data for the system makes it impossible to determine whether this "day-night divide" at the Northline campus is in alignment with that of the system as a whole. (JA)

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A Report on Class Scheduling at the Northline Campus: Focus on Fall 2001

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EXECUTIVE SUMMARY

A Report on Class Scheduling at the Northline Campus: Focus On Fall 2001

This report is the result of a randomly administered survey conducted by the counseling department at the Northeast college in the Houston Community College System (HCCS) during spring 2001.

The purpose of this report is to disseminate the findings from a survey done at the Northline campus during the spring semester. The endeavor was a project taken on by the counseling department to help better assist students with class scheduling. More specifically, it is an attempt by this department to move toward the basic tenets of the "learning college", as we understand those tenets. It is our belief that providing class scheduling at optimum times will greatly benefit both the institution and it's student-body. In addition to the aforementioned, it is the belief of the counseling department of Northeast College that information from this study will:

(A). Provide the academic side with information that will allow for more efficiency when scheduling classes.

(B). Act as a retention strategy by allowing students to have input in the process that is used to determine when classes will be offered for them.

(C). Act as a buffer against the need for excessive class cancellations and thereby aiding the institution to minimize that activity.

The survey was designed by the counseling department, and is believed adequate for collecting "factual" data. The population characteristics of the student body at the Northeast College were important factors in designing the instrument. Because we were trying to estimate the intentions of the campus population based on a random sample from that target-population, we took certain steps to enhance the likelihood that the results are generalizable to the Northline student population. The survey revealed several important and interesting facts:

(1) Most students at the Northline campus prefer day classes as opposed to evening and nights
(2) More students prefer classes on Monday and Wednesday morning than other times.
(3) The least popular times for these students were Tuesdays and Thursdays after 12noon.
(4) The second most popular time selected was Monday, Wednesday, and Fridays between the hours of 8am and 3pm.

Purpose

The purpose of this study is to ascertain students' perceptions of the best times and days for them to attend the Northline campus for classes. Logically, the one person who is best qualified to determine when his/her classes are needed is the student. The study is a compilation of earlier efforts and current concerns by this department to collect and organize data to aid in adequate class scheduling for students.

Background

The Northline campus is one of the most diverse in the Houston Community College System. Because many of our students have special concerns it is important to *help them stay in school* by offering classes at times that are conducive to their ability to get here. For example a number of students have transportation concerns, as many of them ride the bus to class, and a great proportion have been identified as having some level of disability.

In the 1980s, the nontraditional student became the norm in student populations in colleges and universities. Nontraditional students are defined by most authorities as students who are 25 years of age or older, attend colleges on a part-time basis, or commute to school, or any combination of these characteristics.(Villella & Hu, 1991).

In addition, a great number of our students work either full or part-time. The areas surrounding Northline campus are now experiencing growth and there will be an opportunity for our students to receive employment near the campus. It is general knowledge that a large proportion of our students is employed. To continue to provide the best services for our students', classes must be offered at times that will allow them to work while attending their classes.

With visionary marketing strategies, while keeping the students interest in mind, the Counseling staff at the Northeast College decided to poll students to determine how we could best offer classes to suite their needs. The target population for this survey study was students who take classes at the Northline campus. This population does not include GED students, automotive students, or any other students not on an academic track. The sample design was a two-stage process. First the counselors randomly selected students individually, this accounted for about one half of the sample. Secondly, several class-rooms were randomly selected to get the remainder of the pre-determined number of students. The sample (N=290) included a heterogeneous group. We were certain to include weekend students, evening students, morning students, students who worked and those who did not work, and so forth.

Because we are making estimates from the sample, it is obvious that some error will exist. Classic probability theory indicates that there are methods to address this issue (see Tuckman, 1978; Moore and McCabe, 1993; McCall, 1980; Healey, 1984; Ferguson, 1981; and Newbold, 1988). Also we utilized information obtained from the research manual entitled "Beyond the Mean, Median, and Mode" written by Dr. Clennis High and funded with the Bedichek grant. Following well-established procedures, we mathematical determined that a sample of 272 randomly selected respondents would allow us to make estimations of error limits within +/-5% with a 90% level of confidence. Because the

questionnaire was designed to collect "factual data" and not attitudinal, perceptional, personal, or other spurious measures we believe it to be influenced little by "other" types of error. The formula used to calculate the study sample size, and supporting statistical logic, is given in the appendix section.

Data Analysis

Given that this study is a basic "descriptive" study the data are simply collected and put in to a form that makes sense. The results are comprised of tables showing the survey results. First, table one shows the time- slots responses, and breaks them down to Morning (before 12noon) and evening (after 12noon). Table 2 to shows the days.

Table 1
Preferred Hours of the Day

8-10am	95	32.8%
10-12noon	108	37.3%
12-2pm	16	5.5%
2-4pm	12	4.1%
after 5pm	59	20.4%
Day = 70 %		Evening = 30%

ratio of: 1:2.33

As is evident in the data table the most popular time is 10-12noon, the least popular time is between the hours of 2-4pm. Moreover, the second most popular or desirable time is 8-10am in the mornings, and the most popular time for evening classes is after 5pm. This could be relative to the great number of working students we have. Generally the data indicate day classes are more desirable than are evening or night classes. More to the point, the ratio indicates that for every one student wanting to attend classes during the evening, two and a third person preferred daytime classes.

Given the statistical criteria set forth at the on set of this study, the following limits apply to this data:

(A). All of the five time periods are within 5% of the population value. For example, the *real* percent of students preferring classes between 10-12noon lies between 32.3% and 42.3%

(B). The percent of the student population preferring day classes lies between 65% and 75%, and night classes 25% and 35%.

(C). We can be 90% certain that theses error limits are accurate.

Table 2
Preferred Days
(in rank order)

Days	Frequency	Percent
Mon. & Wed Mornings	77	27%
Mon. Wed. & Fri (8-3pm)	53	18%
Tues. & Thurs. Mornings	48	16.5%
Mon. & Wed. (after 5pm)	26	9%
Mon. Wed. & Fri. (after 5pm)	22	7.6%
One day a week (day or evening)	21	7%
Mon. & Wed (after 12noon)	19	6.6%
Tue. & Thurs. (after 5pm)	17	5.9%
Tue. & Thurs. (after 12noon)	7	2.4%
	290	100%

It is important to remember that the sample data is accurate within 5% either way for data in both tables based on two-tailed probability at the 90% C.I. (alpha =.10).

Findings and Conclusions

The data indicates that the vast majority of students surveyed (70%) prefer having classes during the day. Less than a third (30%) indicated they prefer nighttime classes. This appears to be consistent with other data that the system has collected in the past. However, the lack of current available data for the system makes it impossible to determine whether this "day-night divide" at the Northline campus is in alignment with that of the system as a whole. Moreover, there was a natural and clear cut-off from the third highest ranked time (Tues & Thurs. mornings) and the rest of the choices. The three highest ranking time slots were greatly preferred over the other choices. It may be noted that the survey did not include times before 8am. This was omitted, because students traditionally make attempts to avoid these early morning classes and generally opine this is a bad time for them to take classes. Only two respondents mentioned this time period.

The specific details and design, along with a copy of the survey is included in the appendix section of this document. It is the hopes of the researchers that this will be the first of several such surveys to help establish college specific patterns not segregated in data based on system-wide

analysis in the HCC System. We hope that resources will be available that will allow us to annually conduct this activity. Also, it is likewise hoped that the information will be used in a proper manner to help with class scheduling, as was the initial intention of this effort. Because of the need for the institution to be effective and efficient, and up coming changes in the duration of registration, this information is very necessary and timely in our opinion.

Finally, the results of this study will be shared with peers for their information and input through publication or presentation at a professional function. Counselors are naturally very in tune to student needs because we work on "ground level" with them daily. It is the needs of the students at this location that generated the conception of this study. The information we have obtained is not based on conjecture or some non-empirical supposition; it is based on the scientific method and the needs of our students.

Appendix

Design

The survey was created by the counseling department during the spring semester, 2001. Counselors met to consider important factors in the instrument's design in regard to respondents ability to articulate and respond to the instrument. Several drafts were considered before the final survey was agreed upon. Once this was achieved, the instrument was shown to other office staff and several students for input. The study instrument is the result of this collaboration and was the only means of data collection.

The sampling design was a systematic two-stage process to collect data from a predetermined sample size (covered next) in a random manner. The first stage consisted of randomly selecting students in every area of the campus to complete a survey. Students were told why the survey was being conducted and how to accurately complete it. The second stage of the process involved randomly selecting classrooms from day, night, and weekend classes, and having the students complete the survey.

It was agreed upon that we would establish scientific standards to be relatively sure the results of our efforts did not occur by random chance and could be relied on as good estimates of population values. It was agreed that we wanted to be at least 90% sure of our results, and have a margin of error no more that 5%. We selected a formula from popular literature to determine what sample size we would need to achieve these standards. That sample size was found to be 272, we collected a total sample of 290. The formula utilized is given at the bottom of the page.

Once data was collected we, as a group reviewed surveys for conformity and discarded those not in alignment with standards. Once we were satisfied that we had "clean" data' we created a codebook, and entered the data into a computerized system. Results were based on the standards described earlier, on two-tailed probability, and on theoretical characteristics of the standard normal distribution.

Formula for sample

SAMPLE SIZE FOR DESIRED MARGIN OF ERROR

The level C confidence interval for a proportion p will have margin of error approximately equal to a specified value m when the sample size is

$$n = \left(\frac{z^*}{m}\right)^2 p^*(1 - p^*)$$

where p^* is a guessed value for the true proportion.

The margin of error will be less than or equal to m if p^* is chosen to be 0.5. This gives

$$n = \left(\frac{z^*}{2m}\right)^2$$

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